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JMF Services, Inc., 977 Taylor Road, Libby, MT 59923  
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Director, Department of Fish, Wildlife & Parks, 1420 E 6th Avenue, Helena, MT 59620  
Lisa Peterson, DEQ, Director's Office, 1520 E 6th Avenue, Helena, MT 59620 - via email  
Environmental Quality Council, Capitol Complex, Helena, MT 59620  
Documents Section, State Library, Capitol Complex, Helena, MT 59620  
Paul Nicol, DEQ, Director's Office, 1520 E 6th Avenue, Helena, MT 59620 - via email

Ladies and Gentlemen:

To comply with the Administrative Rules of Montana, 17.4.607(2) and 17.4.609(2), the Department of Environmental Quality (DEQ) has prepared the enclosed Draft Environmental Assessment (EA). The attached Draft EA is for the land application of septage, vault toilet-type waste, grease trap waste and gray water in Lincoln County, Montana.

The purpose of this Draft EA is to inform the public of the proposed action and to seek public participation in the decision-making process. Persons wishing to comment have until the close of business on January 22, 2016 to submit written comments concerning the proposal. DEQ will not make a final decision until after the comment period has ended. A complete color copy of the EA may be viewed on DEQ's website at: <http://deq.mt.gov/ea/SepicPumpers.mcp.x>.

If you wish to comment on this proposed action during the comment period, please do so in writing by mailing your comments to the Waste and Underground Tank Management Bureau, Solid Waste Program, P.O. Box 200901, Helena, MT 59620-0901, or by E-mail to mailbox [degwutbcomments@mt.gov](mailto:degwutbcomments@mt.gov).

Sincerely,

Fred Collins  
Waste and Underground Tank Management Bureau  
Solid Waste Section

Enclosure: Draft EA – JMF Services, Inc.

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

Permitting and Compliance Division  
Waste and Underground Tank Management Bureau  
Solid Waste Section  
PO Box 200901  
Helena, MT 59620-0901

**DRAFT ENVIRONMENTAL ASSESSMENT**

**SECTION 1.0 – SOLID WASTE SECTION ROLES AND RESPONSIBILITIES:**

The Department of Environmental Quality (DEQ), Solid Waste Section (SWS), is responsible for ensuring activities proposed under the Solid Waste Management Act, the Septage Disposal Licensure Act, and the Motor Vehicle Disposal & Recycling Act are in compliance with current regulations. The Solid Waste Section (SWS) is a part of DEQ's Permitting and Compliance Division, Waste and Underground Tank Management Bureau. The Solid Waste Management Act (75-10-201, MCA), the Septage Disposal and Licensure Law, and the Administrative Rules of Montana (ARM), Title 17, Chapter 50 for Cesspool, Septic Tank, and Privy Cleaners, provide the necessary authority for the SWS to license and regulate septic tank pumpers in the state of Montana. Sites proposed for land application are selected by the applicant; DEQ does not have a role in the site selection process. Proposed sites are reviewed and approved by the county in which the site is located before a request for site approval is submitted to the SWS. Each licensee is responsible for complying with the regulations and other restrictions and/or requirements put in place by the county in which the land application site is located.

**Purpose of the Environmental Assessment:**

In accordance with 75-1-102, Montana Code Annotated (MCA), the Montana Environmental Policy Act (MEPA) is procedural and requires the "adequate review of state actions in order to ensure that environmental attributes are fully considered by the legislature in enacting laws to fulfill constitutional obligations; and the public is informed of the anticipated impacts in Montana of potential state actions." According to MEPA, an Environmental Assessment (EA) is a procedural document that communicates the process agencies follow in their decision-making. An EA does not result in a certain decision; but rather, it serves to identify the potential effect of a state action within the confines of existing laws and rules governing such proposed activities so that agencies make balanced decisions. The MEPA process does not provide regulatory authority beyond the authority explicitly provided in the existing statute.

The Septage Disposal and Licensure regulations establish the minimum requirements for the land application of septage wastes. The EA is the mechanism that DEQ uses to determine whether a proposed land application site meets the minimum requirements for compliance with the current laws and rules and is therefore licensable as proposed, assist the public in understanding the licensing laws of the Septage Disposal and Licensure program, identify and discuss the potential environmental effects of the proposed land application activity if it is approved and becomes operational, discuss actions taken by the applicant and the enforceable measures and conditions of the license designed to mitigate the effects identified by DEQ during the review of the application, and seek public input to ensure DEQ has identified all the substantive environmental effects associated with the proposed land application of pumpings on the proposed property.

**Benefits and Purpose of Project:**

Septage is the liquid and solid material removed from a septic tank, cesspool, portable toilet, or similar treatment works that receives only waste and wastewater from humans or household operations. Septage is not Class B sewage sludge that has undergone treatment at a waste water treatment plant. The land application of septage is an economical and environmentally sound practice. When properly managed, septage is a resource. When used as a valuable soil conditioner, septage contains nutrients that can reduce reliance on chemical fertilizers for agriculture. A properly managed land application program recognizes the



benefits of septage and employs practices to maximize both the value of the material and the establishment and growth of weeds. Land application of septage benefits agricultural land by the addition of moisture, organic matter and nutrients to the soil without adversely affecting public health. When the septage is being applied as a soil conditioner; the use is considered an application rather than the disposal due to the benefits the materials provide. The land application of septage, vault toilet-type waste, grease trap waste and gray water at this site will add nutrients, organic matter, and moisture. This will improve the soil productivity and tilth for the continued production and enhancement of agricultural crops and grasses at the site.

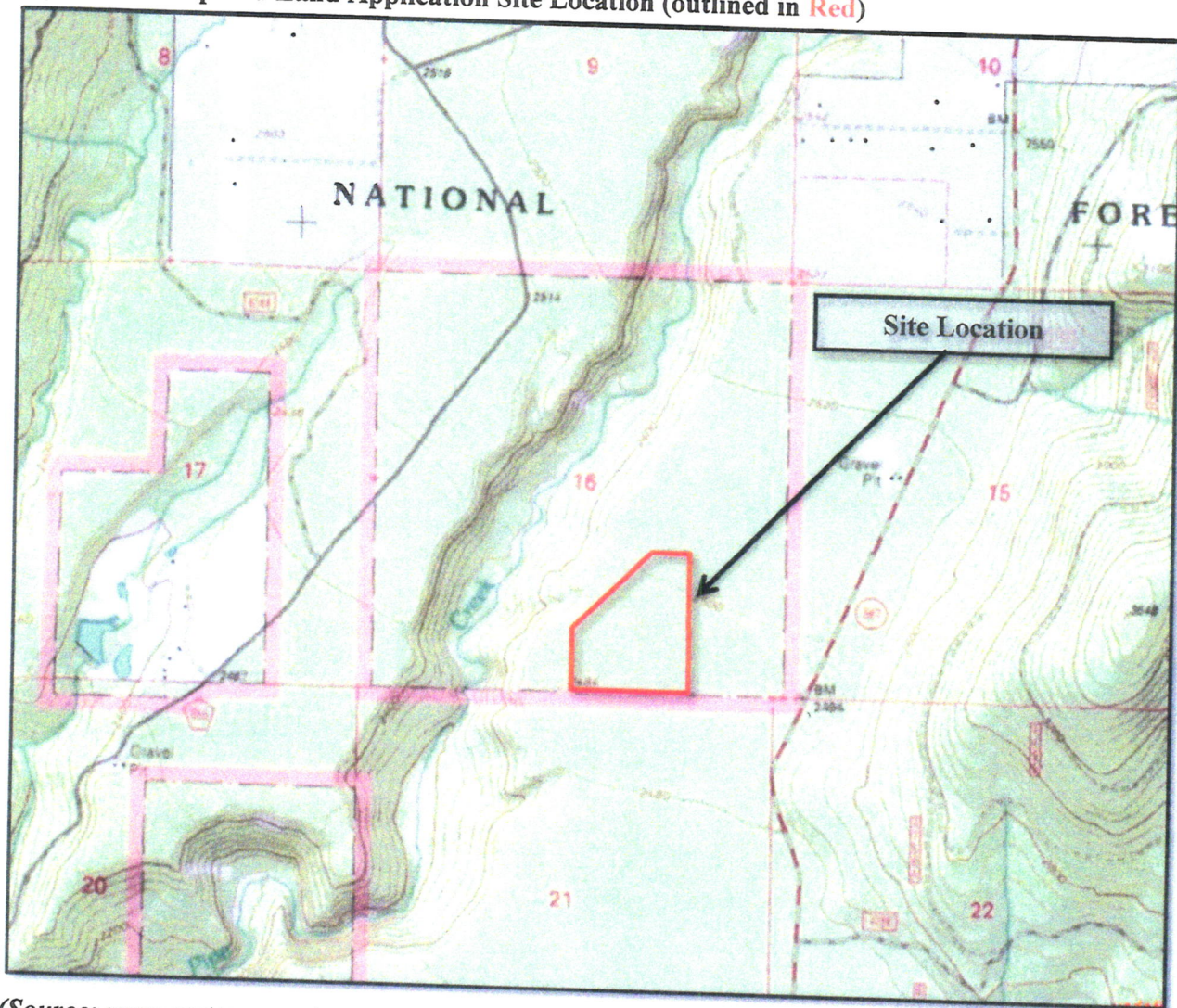
## SECTION 2.0 – PROJECT DESCRIPTION:

Amy Johnson, of JMF Services, Inc. (applicant), has submitted an application for the approval of a site for the land application of septage, vault toilet-type waste, grease trap waste and gray water on approximately 40 acres of Montana Department of Natural Resources (DNRC) property in Lincoln County, Montana. At the present time, the property is timber land. Land application will occur at this site only as-needed.

### Site Location:

The proposed land application site is located on private property in the West ½ of the Southeast ¼ Section 16, Township 31 North, Range 31 West, Montana Principal Meridian, Lincoln County, Montana; 3.4 miles down Pipe Creek Road on the left (Figure 2.1). A total of 40-acres will be used for the land application of septage, vault toilet-type waste, grease trap waste and gray water (Figure 2.2), that will be divided into two 20-acre parcels. The 20-acre parcels will be rotated annually, so that a parcel used one year will be inactive the next year.

**Figure 2.1: Proposed Land Application Site Location (outlined in Red)**



(Source: [www.mytopo.com](http://www.mytopo.com))



**Figure 2.2: Map of Land Application Site Boundaries (outlined in Red)**



*(Source: Google Earth)*



### **Site Setback Requirements:**

In accordance with the Administrative Rules of Montana (ARM), the setbacks noted in Table 2.1 must be maintained by the applicant during land application activities.

**Table 2.1: Land Application Site Setback Requirements**

ARM Reference	Setback Requirements
17.50.809(1)	Pumpings may not be applied to land within 500 feet of any occupied or inhabitable building.
17.50.809(2)	Pumpings may not be applied to land within 150 feet of any state surface water, including ephemeral or intermittent drainages and wetlands.
17.50.809(3)	Pumpings may not be applied to land within 100 feet of any state, federal, county, or city-maintained highway or road.
17.50.809(4)	Pumpings may not be applied to land within 100 feet of a drinking water supply source.
17.50.809(6)	Pumpings may not be applied to land with slopes greater than 6%.
17.50.809(8)	Pumpings may not be applied to land where seasonally high ground water is 6 feet or less below ground surface.

### **Site Operation and Maintenance Requirements:**

The land application of septage, vault toilet-type waste, grease trap waste and gray water is considered the beneficial use of a waste product when the material is applied in accordance with the laws and rules governing land application. The operational requirements for land application are outlined in Table 2.2.

**Table 2.2: Land Application Site Operational Requirements**

ARM Reference	Site Restrictions/Requirements
17.50.809(10)	All non-putrescible litter must be removed from the land application site within 6 hours of application.
17.50.809(12)	Pumpings may not be applied at a rate greater than the annual application rate (AAR) of the site for crop nitrogen requirement on an annual basis.
17.50.810(1)	Pumpings may not be applied to flooded, frozen, or snow covered ground if the pumpings may enter state waters.



17.50.811(3)	<p>Pumpings may be applied only if the person first performs one of the following vector attraction and pathogen reduction methods:</p> <ul style="list-style-type: none"> <li>• injection below the land surface so no significant amount remains on the land surface within one-hour of injection;</li> <li>• incorporation into the soil surface plow layer within 6 hours of application;</li> <li>• addition of alkali material so that the pH is raised to and remains at 12 or higher for a period of at least 30 minutes; or,</li> <li>• management as required by 17.50.810 when the ground is frozen</li> </ul>
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As noted previously, the acreage available for land application will be rotated on an annual basis, so that a parcel used one year for land application will be actively cropped the next year. This rotation allows the vegetation or crop of choice to utilize the nitrogen and other nutrients added from the land application process.

Pumpings will be land applied using a dispersive mechanism, consisting of either a spreader bar or a splash plate. The dispersive mechanism applies the waste in a wide, thin, even layer at a beneficial rate. Pumpings will be incorporated into the soil surface plow layer with a tractor and tillage equipment within six-hours of application.

Land application will occur as-needed at a rate not exceeding the Annual Application Rate (AAR) in gallons per acre. For septage and vault toilet-type waste, the AAR is calculated based upon the production of a specific crop or grass, as follows:

AAR = Crop Nitrogen Requirement/0.0026 for septage waste.

AAR = Crop Nitrogen Requirement/0.0052 for vault toilet-type waste.

In this case, the property will be seeded for the production of pasture grass. The Fertilizer Guidelines for Montana Crops, published by the Montana State University Extension Service, shows that pasture grass at this location has a nitrogen requirement of 75 pounds/acre. The resulting AAR for septage application is 28,846 gallons per acre, and is equal to approximately 1.06 inches of liquid per acre per year. For comparison, the average annual precipitation received during the month of August is approximately the amount of septage that would be land applied per acre per year at the proposed site (see Table 2.5). For vault toilet-type waste, the AAR for wheat cropped land is 14,423 gallons per acre; this is equal to 0.53 inches of liquid per acre. For comparison, the average annual precipitation received during the month of April is greater than the maximum amount proposed for land application per acre per year at the proposed site (see Table 2.5). To further ensure that land applied wastes are not over-applied at the site, areas that receive both vault toilet-type waste and septage will be restricted to application at the lowest application rate; which is 14,423 gallons per acre per year for the grass crop properties.

**Site Climate:**

Table 2.3 provides a summary of monthly climate information for Libby, Montana. The winters in the Libby area are long and moderately snowy; the summers are typically moderate. The majority of precipitation falls during the months of November and December, while April and August are the driest months. The average annual precipitation is approximately 15.83 inches.

**Table 2.3: Monthly Climate Summary**

<b>LIBBY, MONTANA (245000)</b>													
<b>Period of Record Monthly Climate Summary</b>													
<b>Period of Record : 01/01/1998 to 08/07/2012</b>													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	32.9	38.0	47.9	57.9	67.9	76.0	87.0	84.1	71.5	54.5	39.2	29.9	57.2
Average Min. Temperature (F)	22.5	23.2	26.4	31.5	38.5	45.1	49.4	47.2	40.5	32.2	27.4	20.1	33.7
Average Total Precipitation (in.)	1.72	0.96	1.29	0.70	1.46	1.29	0.91	0.75	0.96	1.73	1.88	2.20	15.83
Average Total SnowFall (in.)	8.7	5.7	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.2	3.1	9.3	27.7
Average Snow Depth (in.)	11	11	5	0	0	0	0	0	0	0	1	6	3

*(Source: Western Regional Climate Center)*



### SECTION 3.0 – ALTERNATIVES CONSIDERED:

The following provides a description of reasonable alternatives whenever alternatives are reasonably available and prudent to consider:

A decision by DEQ is triggered when the applicant upholds the request for licensure of the proposed activity at the proposed location. The applicants however, may at any time choose to withdraw the application. This would result in DEQ selecting the “no action” alternative, because DEQ’s decision would not be necessary. If the applicant withdraws the application, the applicant could seek to locate a land application site elsewhere.

**Alternative A:** The “no action” alternative. This alternative will be implemented when a final decision by DEQ is not required because the applicant has chosen to withdraw the application for approval of the land application site.

**Alternative B:** The ‘license application denied’ alternative. This alternative will be implemented and DEQ will deny the new disposal site application if the application failed to meet the minimum requirements of the Septage Disposal Licensure Act and continue to be processed as submitted. If denied, the applicant has the option to modify the application for the current site and reapply for licensure, or could locate, investigate, and apply for licensure of another site.

**Alternative C:** The ‘license application approved’ alternative. This alternative will be implemented and DEQ will approve the application for licensure of the new disposal site if the application meets the requirements of the Septage Disposal Licensure Act.

In consideration of these alternatives, DEQ has not received a request by the applicant to withdraw the application for licensure. In addition, DEQ has determined the application meets the requirements of the Septage Disposal and Licensure Laws. Therefore, the potential environmental effects of Alternative C were evaluated for the proposed project based on the information provided, DEQ’s research on the site and area surrounding the proposed site. The results of DEQ’s evaluation of potential environmental effects related to the proposed facility are summarized in Section 4.0.

## **SECTION 4.0 - EVALUATION OF POTENTIAL EFFECTS**

Tables 4.1 and 4.3 of this section identify and evaluate the potential environmental effects that may occur to human health and the environment if the land application site is approved. The discussion of the potential impacts only includes those resources potentially affected. If there is no effect on a resource, it may not be mentioned in the analysis.

Direct and indirect impacts are those effects that occur in or near the proposed project area and might extend over time. Often, the distinction between direct and indirect effects is difficult to define, thus in the following discussion, impact or effect means both types of effects.



**TABLE 4.1 – POTENTIAL IMPACTS TO THE PHYSICAL ENVIRONMENT**

<b>PHYSICAL ENVIRONMENT</b>	<b>Major</b>	<b>Moderate</b>	<b>Minor</b>	<b>None</b>	<b>Unknown</b>	<b>Attached</b>
<b>1. TERRESTRIAL, AND AQUATIC LIFE AND HABITATS</b>			✓			✓
<b>2. WATER QUALITY, QUANTITY &amp; DISTRIBUTION</b>				✓		✓
<b>3 GEOLOGY</b>				✓		✓
<b>4. SOIL QUALITY, STABILITY, AND MOISTURE</b>			✓			✓
<b>5. VEGETATION COVER, QUANTITY &amp; QUALITY</b>			✓			✓
<b>6 AESTHETICS</b>			✓			✓
<b>7. AIR QUALITY</b>				✓		
<b>8. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES</b>			✓			✓
<b>9. HISTORICAL AND ARCHAEOLOGICAL SITES</b>				✓		✓
<b>10. DEMANDS ON ENVIRONMENTAL RESOURCES ON LAND, WATER, OR ENERGY</b>				✓		

## ANALYSIS OF TABLE 4.1 – POTENTIAL IMPACTS TO THE PHYSICAL ENVIRONMENT

*This section evaluates the potential environmental effects that may occur on the physical environment if the proposed facility is approved. The number on each of the underlined resource headings corresponds to a resource listed in the tables. Generally, only those resources potentially affected by the proposal are discussed. Therefore, if there is no effect on a resource, it may not be discussed.*

### 1.0 Terrestrial, Avian, and Aquatic Life and Habitats

The site proposed for land application is currently timber land. Approximately 40 acres of forested wildlife habitat would be removed and converted to an open field. This conversion would result in the removal approximately 34 acres of well-stocked regenerating forest (10-30 feet in height) and 6 acres of mature forest. Any wildlife species relying on trees and vegetation other than grass would be displaced for the term of the lease in the cleared area. During the day, while septage application is occurring, wildlife would likely be displaced. However, approximately 462 acres of forested wildlife habitat in the project area would be unaffected and remain suitable for use by wildlife species preferring mature forested conditions.

Pipe Creek is located approximately 0.25 miles from the proposed site. Pipe Creek is a perennial, class 1, fish bearing stream through the state parcel (Section 16). Fish present in this portion of Pipe Creek include eastern brook trout (abundant), bull trout (rare), longnose dace (common), rainbow trout (common) and westslope cutthroat trout (unknown abundance). Because no continuously active aquatic systems exist within the boundary of the proposed site, it is highly unlikely that there will be any significant impact to aquatic life on the site.

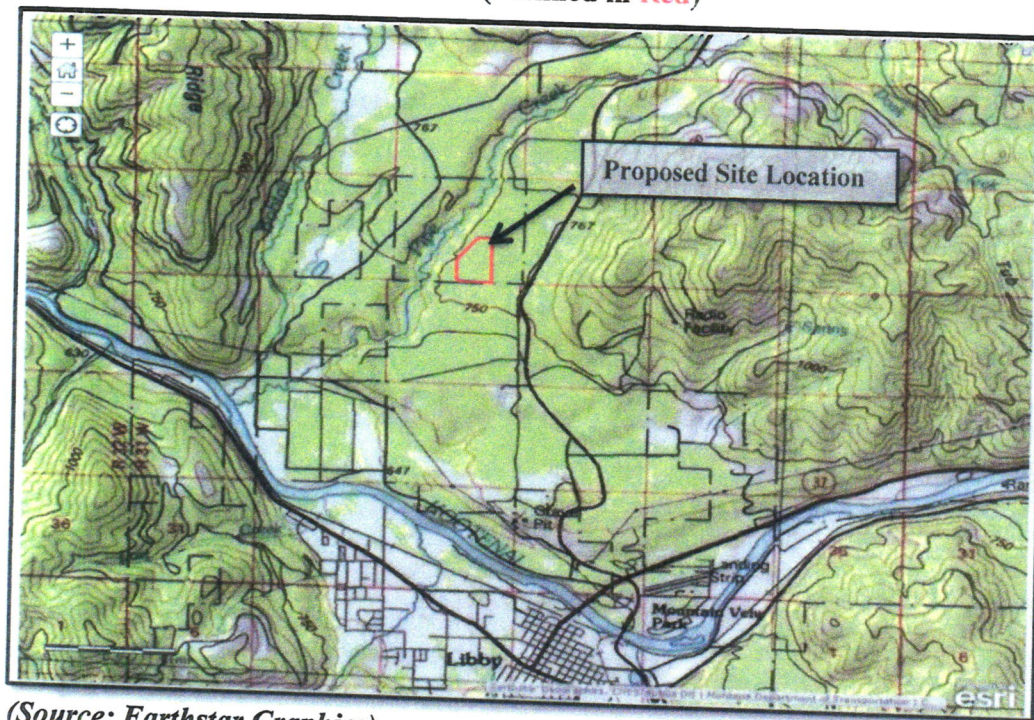
### 2.0 Water Quality, Quantity, and Distribution

#### *Surface Water*

The proposed application site is located approximately 0.25 miles east of Pipe Creek in the Upper Kootenai and Lower Pipe Creek watershed. This is mapped on the United States Geological Survey (USGS) Libby 1:24,000 quadrangle (Figure 4.1). Pipe Creek drains in a south-southwest direction to the Kootenai River. Land application is prohibited within 150 feet of any state surface water, including ephemeral or intermittent drainages and wetlands. There are no wetlands or natural springs known within the the proposed application site. Due to the gentle slope of the proposed site, which is 2% or less, the high available water storage capacity of the soils and the distance to Pipe Creek, it is unlikely that any impacts to surface water would occur.



**Figure 4.1: Proposed Site Location (outlined in Red)**



(Source: Earthstar Graphics)

#### *Groundwater*

Groundwater in the area of the proposed land application site appears to be present in glacial outwash and river alluvial deposits flanking the active river channel. These deposits consist of buried, discontinuous, but interconnected, lenses of gravel, sand, fine sand, and silt. These sediments contain a locally unconfined aquifer. Groundwater beneath this site is likely flowing to the south-southwest, following the flow direction of Pipe Creek. The mapped groundwater flow direction at the Lincoln County Landfill, which is approximately 1 mile to the south of the site, is also to the south-southwest. The aquifer is recharged primarily from infiltration of surface water and precipitation at the surface. The aquifer may also receive considerable recharge from the Kootenai River along some reaches.

#### *Nearby Groundwater Supply Wells*

Based on a review of the Montana Bureau of Mines and Geology (MBMG) database of existing wells (Figure 4.2), there are 21 water supply wells, one irrigation well and five monitor wells located within a one mile radius of the proposed facility. The 6 nearest wells are all domestic water supply wells. According to the MBMG database, the domestic well to the southwest is completed to a total depth of 73 feet below ground surface (bgs) in sand and fractured bedrock and has a static water level of 58 feet. The two domestic wells to closest to the site to the west are: 1) completed to a total depth of 485 feet bgs in fractured bedrock and has a static water level of 291.8 feet and; 2) completed to a total depth 339 feet bgs also in fractured bedrock, with no recorded static water level. The domestic well to the the northwest of the site is completed to a total depth of 75 feet and has no static water level noted. The domestic well to the northeast of the site is completed to a total depth of 367 bgs and has a static water level of 350 feet. Finally, the domestic well to the southeast of the site is completed to a total depth of 364 bgs in silty gravel and bedrock and has a static water level of 184 feet bgs. The shallow water supply wells within a one mile radius of the proposed facility are typically completed sand and gravel formations in the upper portion of the aquifer and the deeper wells are typically completed in lower sands and gravel and the underlying bedrock formation. The wells are completed from 27 to 565 feet below ground and have static water levels ranging from 15 to 351 bgs (Table 4.2). As a result of the distance to the nearest supply wells and the depth to groundwater in the area, there is no anticipated impact to the groundwater or groundwater supply wells from the proposed land application activities.



**Figure 4.2: Location of MBMG -Groundwater Information Center Wells in a 1.0 mile radius of the site (outlined in Red)**



*(Source: Earthstar Graphics)*



**Table 4.2: Summary of Nearby Wells**

Gwic Id	Township	Range	Section	Type	Total Depth	Static water level	Yield(gpm)	Date	Use
<a href="#">273952</a>	31N	31W	20	WELL	565	292	50	6/20/2013	DOMESTIC
<a href="#">160586</a>	31N	31W	20	WELL	339		10	10/7/1996	DOMESTIC
<a href="#">88291</a>	31N	31W	20	WELL	38	18	10	6/3/1965	DOMESTIC
<a href="#">88295</a>	31N	31W	20	WELL	37	17	60	11/17/1987	DOMESTIC
<a href="#">258745</a>	31N	31W	20	WELL	37	15	32	10/15/2010	DOMESTIC
<a href="#">88293</a>	31N	31W	20	WELL	56	25	10	6/8/1977	DOMESTIC
<a href="#">88294</a>	31N	31W	20	WELL	54	25	10	8/1/1985	DOMESTIC
<a href="#">138154</a>	31N	31W	20	WELL	58	36	15	4/10/1993	DOMESTIC
<a href="#">88296</a>	31N	31W	20	WELL	27	20	2	8/1/1960	DOMESTIC
<a href="#">88297</a>	31N	31W	20	WELL	48	24	7	7/1/1958	DOMESTIC
<a href="#">159437</a>	31N	31W	20	WELL	58	38.3	10	7/31/1996	DOMESTIC
<a href="#">159438</a>	31N	31W	20	WELL	43	28.5	12	7/24/1996	DOMESTIC
<a href="#">88298</a>	31N	31W	20	WELL	74	27	15	6/23/1983	DOMESTIC
<a href="#">238359</a>	31N	31W	20	WELL	352	279	6	7/3/2007	DOMESTIC
<a href="#">88299</a>	31N	31W	20	WELL	43	17		7/20/1964	DOMESTIC
<a href="#">88300</a>	31N	31W	20	WELL		30	10	1/1/1903	IRRIGATION
<a href="#">261190</a>	31N	31W	20	WELL	485	291.8	30	5/6/2011	DOMESTIC
<a href="#">174710</a>	31N	31W	20	WELL	215	112	25	7/29/1999	DOMESTIC
<a href="#">174711</a>	31N	31W	20	WELL	370	260	3	12/28/1998	DOMESTIC
<a href="#">160588</a>	31N	31W	20	WELL	406	260	10	8/29/1996	DOMESTIC
<a href="#">224780</a>	31N	31W	22	WELL	364	184	30	7/16/2004	DOMESTIC
<a href="#">254479</a>	31N	31W	28	WELL	380	351		1/11/1991	MONITORING
<a href="#">254458</a>	31N	31W	28	WELL	260	217		7/30/2002	MONITORING
<a href="#">254461</a>	31N	31W	28	WELL	240	225		7/24/2002	MONITORING
<a href="#">254371</a>	31N	31W	28	WELL	192			1/22/1991	MONITORING
<a href="#">141728</a>	31N	31W	28	WELL	216	202	0.3	6/29/1993	MONITORING
<a href="#">214619</a>	31N	31W	28	WELL	273	243	14	8/20/2004	DOMESTIC

*(Source: Montana Bureau of Mines and Geology, Ground Water Information Center)*

<sup>1</sup>The total depth column is the depth drilled, which may be deeper than the bottom of the well as completed.

<sup>2</sup>Static water level is the level of water measured in the well at the time of installation.

<sup>3</sup>Yield is the amount of water the well is expected to be capable of producing as reported by the well driller. Total depth and static water levels are reported in feet below ground surface. Yield is reported in gallons per minute(gpm). All data is based upon driller's logs and may not be reported for every well.

### 3.0 Geology

The stratigraphy in northwest Montana generally consists of alluvium and glacial deposits which are underlain by Belt Precambrian sedimentary formations. Continental glaciers extended into northeastern Montana during several episodes of glaciation leaving deposits of glacial till and outwash materials mantling the bedrock. Groundwater in the area of the proposed land application site is present in a confined glacial aquifer present in the base of the Kootenai River valley. The aquifer is bounded by bedrock present near the surface along the margins of the valley. Recent alluvium fills the majority of the floodplain overlying glacial strata which fills the valley base and continues to cover the bedrock on the margins of the valley. Groundwater flow in the aquifer is interpreted to generally follow the topographic gradient of the surface towards the central part of the valley. Recharge for the area is interpreted to occur from stream loss from the Kootenai River and along the margins of the valley, where bedrock is exposed against aquifer material. Land application of septage is confined to the plow layer of the surface and will not affect the geology of the area.

### 4.0 Soil Quality – Stability & Moisture

Figure 4.3 shows the soils at the proposed site. The dominant natural soil type at the proposed site consists of the Andic Dystric Eutrochrepts, lacustrine terraces-Andic Dystrochrepts, glacial outwash terraces, complex. These soils occur on slopes between from 0 to 15 percent. The slopes are moderately well-drained with high available water storage capacity of about 10.2 inches and have a depth to groundwater greater than 80 inches. The soils were developed from glacial outwash terraces. Due to the necessity to clear the site of vegetation and smooth the surface for vehicle access and land application of septage, the soils over the entire site will be disturbed. This will cause short term increase of wind erosion. Due to the limited slope at the site (~2%), there is little anticipated erosion from precipitation. The soil type at the site is suited for land application of septage because it will allow for storage of the septage, due to the high water storage capacity, until the nutrients can be used by the grasses planted at the site.



Figure 4.3: Map of Soil Types (site is outlined in green)



(from: USDA-NRCS, Web Soil Survey, Lincoln County, Montana)

**Soil Key (Figure 4.3)**

**108:** Andic Dystric Eutrochrepts, lacustrine terraces-  
Andic Dystrochrepts, glacial outwash terraces, complex



## **5.0 Vegetation Cover, Quantity and Quality**

The vegetative cover, quantity and quality of the land and its crops will be enhanced by the proposed activity. The land application of domestic septage provides benefits to agricultural land by the addition of organic matter, moisture and nutrients to the soil. The land application of septage at the proposed site will result in an increased production of grasses from the added moisture, organic matter, and nutrients contained in the septage.

## **6.0 Aesthetics**

This site is currently forested with Lodgepole pine, Ponderosa pine, Western Larch, and Douglas-fir trees. Approximately 462 acres of forested area abuts the proposed area. Approximately 40 acres of this currently forested area will be cleared and made an open field for septage land application activities. Because trees and stumps will be cleared to accommodate septage land application activities, there will be a minor change in the aesthetics of the area. However, the proposed site is neither visible from a highly-populated area, nor accessed by the general public. Therefore, the impact to the aesthetics in the area is minor.

## **8.0 Unique, Endangered, Fragile, or Limited Environmental Resources**

A search of the Montana Natural Heritage Program indicated the Townsend's Big-eared Bat, Wolverine, Hoary Bat, Little Brown Myotis, Fisher, Northern Goshawk, Great Blue Heron, Evening Grosbeak, Pileated Woodpecker, Cassin's Finch, Harlequin Duck, Clark's Nutcracker, Black-backed Woodpecker, Western Skink, Coeur d'Alene Salamander, Torrent Sculpin, Westslope Cutthroat Trout, Columbia River Redband Trout, Bull Trout and Sheathed Slug are listed as species of concern. Designation as a species of concern is not a statutory or regulatory classification. Instead, these designations provide a basis for resource managers and decision-makers to make proactive decisions regarding species conservation. An intensive site survey was not conducted to verify the presence of, or impact to, sensitive, unique, endangered, or fragile species within or adjacent to the proposed land application site. There is adequate acreage of similar habitat available in the vicinity of the proposed site to accommodate any relocated species. As a result of the limited development and human population adjacent to the proposed site, the impact to resources is minor.

## **9.0 Historical and Archaeological Site**

A cultural resource file search was conducted for the proposed location that indicated there have been no previously recorded sites within the area. The State Historic Preservation Office stated that there is a low likelihood that cultural properties will be impacted and therefore a cultural resource inventory is unwarranted at this time. However, should cultural materials be inadvertently discovered during proposed operations at this site, the State Historic Preservation Office will be notified immediately.



**TABLE 4.3 - POTENTIAL IMPACTS TO THE HUMAN ENVIRONMENT**

<b>HUMAN ENVIRONMENT</b>	<b>Major</b>	<b>Moderate</b>	<b>Minor</b>	<b>None</b>	<b>Unknown</b>	<b>Attached</b>
<b>1. SOCIAL STRUCTURES &amp; MORES:</b>				✓		
<b>2. CULTURAL UNIQUENESS &amp; DIVERSITY:</b>				✓		
<b>3. DENSITY &amp; DISTRIBUTION OR POPULATION &amp; HOUSING:</b>				✓		
<b>4. HUMAN HEALTH &amp; SAFETY:</b>				✓		
<b>5. COMMUNITY &amp; PERSONAL INCOME:</b>				✓		✓
<b>6. QUANTITY &amp; DISTRIBUTION OF EMPLOYMENT:</b>				✓		
<b>7. LOCAL &amp; STATE TAX BASE REVENUES:</b>				✓		
<b>8. DEMAND FOR GOVERNMENT SERVICES:</b>				✓		
<b>9. INDUSTRIAL, COMMERCIAL, &amp; AGRICULTURAL ACTIVITIES &amp; PRODUCTION:</b>				✓		✓
<b>10. ACCESS TO &amp; QUALITY OF RECREATIONAL &amp; WILDERNESS ACTIVITIES:</b>				✓		
<b>11. LOCALLY ADOPTED ENVIRONMENTAL PLANS &amp; GOALS:</b>				✓		
<b>12. TRANSPORTATION:</b>				✓		✓

## ANALYSIS OF TABLE 4.3 - POTENTIAL IMPACTS ON HUMAN ENVIRONMENT

*This section evaluates the potential environmental effects that may occur on the human environment if the proposed facility is approved. The number on each of the underlined resource headings corresponds to a resource listed in the tables. Generally, only those resources potentially affected by the proposal are discussed. Therefore, if there is no effect on a resource, it may not be discussed.*

### 4.0 Human Health & Safety

The septage, vault toilet-type waste, grease trap waste and gray water waste will be land applied at the site on an as needed basis. Pumpings will be land applied using a dispersive mechanism, consisting of either a spreader bar or a splash plate. The dispersive mechanism applies the waste in a wide, thin, even layer. It does not result in the production of an aerosol, but rather ensures that septage is applied at a beneficial rate and does not pond or runoff. Pumpings will be incorporated into the soil surface plow layer with a tractor and tillage equipment within six-hours of application. There are no additional health or safety concerns when the site is operated in accordance with the Septage Disposal regulations. Therefore, there are no anticipated impacts on human health and safety.

### 8.0 Demand for Government Services

The Lincoln County Public Health Department and DEQ Solid Waste Section will conduct periodic inspections at the site. Therefore, there is a minor impact for demand for government services.

### 12.0 Transportation

The land application site will be accessed off of Highway 2 and Pipe Creek Road, which currently supports traffic to homes, farms and ranches. The site will be used on an as-needed basis by the applicant and will not cause a significant increase in traffic on Highway 2 or Pipe Creek Road. There are no additional anticipated impacts to transportation.



## **SECTION 5.0 CONCLUSIONS AND RECOMMENDATIONS**

### **Evaluation of mitigation, stipulations, and other controls enforceable by the agency or another government agency:**

The proposed land application site and Operation and Maintenance (O&M) Plan will meet the requirements of the Montana Septage Disposal and Licensure Law, Air and Water Quality Acts, and other Montana environmental laws and regulations, as well as county ordinances. Adherence to the regulations and the approved O&M Plan will mitigate the potential for harmful releases and impacts to human health and the environment by the proposed activity at the site.

### **Findings:**

Because the site will be operated and monitored according to the Montana Septage Disposal and Licensure Law, DEQ has determined that the proposed land application site would have an overall minor impact on the physical and human environment. All land application activities would be performed according to the DEQ-approved Operation and Maintenance Plan. Site activities would be verified by periodic inspections performed by DEQ and/or Lincoln County personnel to ensure that the potential risk of adverse effects on human health and environment resulting from land application activities at the site are minimized. The DEQ-approved Operation and Maintenance Plan includes conditions and limitations to ensure the site is operated in compliance with all applicable rules and regulations. This treatment option is a beneficial reuse of a waste product.

### **Other groups or agencies contacted or which may have over-lapping jurisdiction:**

Lincoln County Public Health Department  
Montana Department of Natural Resources and Conservation  
Montana Department of Environmental Quality

### **Individuals or groups contributing to this EA:**

Amy Johnson – JMF Services  
Montana Natural Heritage Program  
Montana Department of Natural Resources and Conservation  
Montana Historical Society State Historic Preservation Office  
Natural Resource Information System

### **References:**

Western Regional Climate Center, 2215 Raggio Parkway, Reno NV 89512-1095  
Montana Tech of the University of Montana, 2012, Montana Bureau of Mines and Geology, Groundwater Information Center, <http://mbmggwic.mtech.edu/>  
United States Department of Agriculture, 2012, Natural Resources Conservation Service, Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

### **EA prepared by:**

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